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Federal Communications Commission
Office of the Secretary

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October 16, 1991

**Ms. Donna Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554**

**Re: RM-7771 of Constellation Communications, Inc., RM-7773 of TRW Inc., RM-7806 of
American Mobile Satellite Corporation and RM-7805 of Ellipsat Corporation**

Dear Ms. Searcy:

**Attached are the Comments of Loral Qualcomm Satellite Services, Inc. in the matter of
Petitions for Rulemaking to Amend the Commission's Rules with regard to Low-earth Orbit
Satellite Systems Operating in the RDSS Bands.**

If you have any questions, please contact the undersigned.

Sincerely yours,

Leslie A. Taylor

OCT 16 1991

Federal Communications Commission
Office of the Secretary

RM No. 7806
RM No. 7771
RM No. 7805
RM No. 7773

³ LQSS will be submitting shortly a petition for rulemaking and a request for a pioneer's preference, as noted in its initial application.

The Petitioners in the referenced rulemakings seek modifications to the Commission's Radiodetermination Satellite Service (RDSS) Rules. Three of the Petitioners--Constellation Communications, Inc., Ellipsat, Inc. and TRW, Inc. ask the Commission to revise these rules in order to allow for the provision of low-earth orbit satellite service in the allocated frequency bands. Constellation, Ellipsat and TRW also have filed applications to construct systems which would provide low-earth orbit satellite services providing radiodetermination, voice and data services.

The fourth petitioner, the American Mobile Satellite Corporation (AMSC), however, seeks a reallocation of a portion of the frequencies in the RDSS to the Land Mobile Satellite Service (LMSS). Once reallocated, AMSC would utilize those frequencies for the monopoly provision of LMSS from its geostationary satellite system serving the United States.

While the petitions of Constellation, Ellipsat and TRW raise matters that the Commission may wish to address in an appropriate rulemaking proceeding, AMSC's proposal is inconsistent with numerous Commission policies, as well as inconsistent with the United States' proposals to the 1992 World Administrative Radio Conference (WARC-92). For those reasons, discussed in more detail below, LQSS urges the Commission to dismiss AMSC's petition.

I. AMSC's Petition is Inconsistent with the Commission's Public Notice Providing for a Processing Round for RDSS Applications

The proceeding in which these petitions have been filed was initiated by the Commission when it sought comments on the applications of Ellipsat and Motorola, Inc.⁴ to provide RDSS, voice and data services from low-earth orbit satellite systems operating in the RDSS bands. The Public Notice established a cut-off period in which to file applications to provide RDSS in the bands proposed to be used by Ellipsat and Motorola. Specifically, the Public Notice, Report No. DS-1068, DA 91-407, released April 1, 1991,

⁴ Motorola Satellite Communications, Inc., File Nos. 9-DSS-P-91(87), CSS-91-010, and Ellipsat Corporation, File No. 11-DSS-P-91(6).

states that, "interested parties wishing to file applications for satellite systems to provide RDSS service in the 1610-1625.5 MHz and 2483.5-2500 MHz bands to be considered concurrently with Motorola's and Ellipsat's applications may do so on or before June 3, 1991."

AMSC's Petition for Rulemaking and application to provide LMSS in the RDSS band are procedurally defective and not responsive to the Commission's public notice. AMSC, while in its application claims it will provide RDSS, acknowledges, that, in fact, it will merely retransmit signals provided by the U.S. government's global positioning system. AMSC's application, filed June 3, 1991, states that "AMSC will provide a highly accurate position location service through the use of the Global Positioning Satellite System ("GPS")."⁵

According to the International Radio Regulations, RDSS is:

3.20 Radiodetermination-Satellite Service: A radiocommunication service for the purpose of radiodetermination involving the use of one or more space stations.⁶

Radiodetermination is defined as:

1.8 Radiodetermination: The determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves.⁷

AMSC's application makes clear that its proposed use of the 1616.5-1626.5 MHz portion of the RDSS band will in no way perform these functions. Rather, AMSC will use its capacity to "retransmit" signals received from the Global Positioning System satellites to subscribers of LMSS. The AMSC facilities will not be used to perform the position reporting function using "propagation properties of radio waves" inherent in RDSS. Thus, AMSC's facilities will provide only a communications function that could be provided by numerous other telecommunications service providers licensed in a variety of services.

⁵ AMSC application, Appendix A, p. 5.

⁶ Chapter I, Article 1, Section III of the International Radio Regulations, 1990 edition.

⁷ Chapter I, Article 1, Section 1, Supra.

Consequently, AMSC's application to use these frequency bands is inconsistent with the International Radio Regulations and Commission's Public Notice and cannot be processed along with the applications of LQSS, Motorola, Constellation, TRW, Inc. and Ellipsat. Given that AMSC's application is inconsistent with the Commission's Public Notice and the International Radio Regulations, its Petition seeking reallocation for these purposes is similarly inconsistent, and therefore should be dismissed.

II. AMSC's Petition is Inconsistent with the Commission's Policy of Open Entry in the Provision of Satellite Services

Apart from the procedural questions noted above, AMSC's Petition for Rulemaking also should be dismissed because the proposals it contains are not in the public interest.

For more than a decade and a half, the Commission has followed a course of providing for open entry in the provision of telecommunications services, particularly satellite services.⁸ When allocating spectrum to RDSS⁹ the Commission specifically established a policy of open entry for that service and established procedural and technical rules which would facilitate such open entry.

AMSC, in its Petition for Rulemaking, seeks a reallocation of a significant portion of the RDSS spectrum to the Land Mobile Satellite Service (LMSS), for use by AMSC, and AMSC alone, from a geostationary satellite.

AMSC, authorized after a lengthy proceeding, and still subject to uncertainty as to its license status,¹⁰ seeks to add more spectrum to its monopoly service even before

⁸ Domestic Satellite Communications, 35 FCC 2d 844(1972), aff'd sub. nom. Network Project v. FCC, 511 F. 2d 786 (D.C.Cir. 1975).

⁹ Amendment of the Commission's Rules to Allocate Spectrum For, and to Establish Other Rules and Policies Pertaining to, a Radiodetermination Satellite Service, First Report and Order, 58 Rad. Reg. 2d (P&F) 1416 (1985), recon., 104 FCC 2d 637 (1986).

¹⁰ The Commission, on June 13, 1991, adopted a "Tentative Decision," conferring a temporary authorization on AMSC, pending issuance of a final decision. See, In the Matter of Amendment of Parts 2, 22 and 25 of the Commission's Rules to Allocate Spectrum for and to Establish Other Rules and Policies Pertaining to the Mobile Satellite Service for the Provision of Various Common Carrier Services; In the Matter of the

it has commenced operations. Moreover, it seeks to utilize the RDSS frequencies in an operational and technical manner which would preclude the use of those frequencies for RDSS from either geostationary or non-geostationary satellites by any other entity.

While the Commission determined that a consortium should be formed for the provision of LMSS in the United States by a single entity, it stated in its Order reluctantly adopting the consortium approach:

We do not preclude the possibility of additional systems in the future should the need arise, should additional allocations be made, or should technological developments make it feasible to divide the available spectrum.¹¹

Now, prior to implementation of its system, AMSC seeks to expand its monopoly over LMSS in the United States from the 27 MHz of spectrum allocated by the Commission for that service. It is also worth noting that AMSC, in other applications, seeks authority to construct its satellites so as to utilize up to 33 MHz of additional spectrum in the Maritime Mobile bands (1530-1544 MHz and 1626.5 MHz to 1645.5 MHz).¹²

Use of the RDSS spectrum by a geostationary satellite system such as AMSC's which provides primarily LMSS would be an inefficient use of that spectrum because of the severe capacity limitations on the provision of service to handheld units by satellites

Applications of Global Land Mobile Satellite, Inc.; Globesat Express; Hughes Communications Mobile Satellite, Inc.; MCCA American Satellite Service Corporation; McCaw Space Technologies, Inc.; Mobile Satellite Corporation; Mobile Satellite Service, Inc.; North American Mobile Satellite, Inc.; Satellite Mobile Telephone Co.; Skylink Corporation; Transit Communications, Inc., 69 Rad. Reg. 2d (P&F) 828, released August 2, 1991. This Tentative Decision was issued in response to the remand of the Commission's licensing order by the U.S. Court of Appeals. See, Aeronautical Radio, Inc. v. FCC, 928 F.2d 428 (D.C. Cir. 1991).

¹¹ Establishment of Rules and Policies Pertaining the Use of Radio Frequencies in a Land Mobile Satellite Service for the Provision of Various Common Carrier Services, 2 FCC Rcd 485 (1987), at fn. 16.

¹² See, Request for Modification and Supplemental Information of AMSC File Nos. 7/8/9-DSS-MP/ML-90 (December 4, 1989) and Application of AMSC for Authority to Operate in the 1530-1544 MHz and 1626.5-1646.5 MHz bands (January 25, 1990).

operating in the geostationary orbital arc. If AMSC uses its proposed modified satellite (with a 5.5 meter diameter spacecraft antenna), for the provision of toll-quality voice to handheld units, the downlink capacity of AMSC's system would be severely reduced. A comparison of AMSC's proposal with that of the low-earth orbit systems indicates that the low-earth orbit systems can provide the same type of service with a bandwidth efficiency of about 10 times that of AMSC. In addition, for handhelds to use the AMSC system, almost 10 times the power at the handheld is required to complete the link for provision of toll-quality voice.¹³

Thus, AMSC's efforts to garner the RDSS spectrum for its LMSS system, in its rulemaking petition and application, should be promptly dismissed by the Commission. Any such reallocation of spectrum would work a disservice to the public interest by precluding the provision of service by systems other than that of AMSC, including low-earth orbit systems employing newer, more efficient technologies providing significantly more capacity and service to users than that proposed by AMSC. Considering AMSC's proposed reallocation as well would be inconsistent with the Commission's open entry policies and the open entry approach specifically adopted for RDSS.

III. Consideration of AMSC's Rulemaking Petition Would Undercut U.S. Objectives within the WARC-92 Effort

Apart from the inconsistency of its proposals with the U.S. public interest, and the Commission's long followed policies even AMSC's proposals are also totally inconsistent with the Commission's recent Report and Order recommending U.S. positions for WARC-92.¹⁴ The Commission's recommendations for the RDSS bands were forwarded in July, 1991 to the International Telecommunication Union as part of the official United States

¹³ In addition, the low-earth orbit systems average less than one watt in the handheld unit, while for toll-quality, AMSC (assuming 16 kbps) would require six to eight watts.

¹⁴ In the Matter of an Inquiry Relating to Preparation for the International Telecommunication Union World Administrative Radio Conference for Dealing with Frequency Allocations in Certain parts of the Spectrum, 6 FCC Rcd 3900, released June 20, 1991.

proposals for the Conference.¹⁵ The United States has made several proposals for WARC-92 which concern the RDSS bands. First and foremost, the United States proposes that the allocations to RDSS be retained throughout the world. In addition, the United States proposes that these bands be made primary throughout the world.¹⁶ Second, the United States proposes that mobile satellite services be added, on a co-primary basis, with the RDSS allocations. As a consequence of adding MSS on a co-primary basis, the United States proposes that provision of MSS in these bands be permitted on the condition that RDSS not be adversely affected.¹⁷

Another related proposal of the United States is to permit space-to-Earth as well as Earth-to-space transmissions in the 1610-1626.5 MHz bands to allow for the bi-directional operations of low-earth orbit satellite systems (a means of operation proposed by both Motorola and LQSS).

Thus, the United States government has reaffirmed its commitment to RDSS, as well as to the requirements of the proposed low-earth orbit RDSS/MSS operations. AMSC's petition is totally inconsistent with these United States objectives because AMSC's proposal would necessitate reallocation of the RDSS spectrum to LMSS as well as technical revisions to the Commission's rules and the International Radio Regulations that would permit much higher power densities to enable the spectrum to accommodate voice service from geostationary orbit. To address AMSC's Petition, or its application, could

¹⁵ See, United States Proposals for the 1992 World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum, U.S. Department of State, Washington, D.C., July, 1991.

¹⁶ In some parts of the world, the current RDSS allocations are "secondary." Secondary allocations are not entitled to protection from interference from "primary" allocations.

¹⁷ As a consequence of adding mobile satellite service on a co-primary basis, the U.S. proposes a footnote that would require that mobile satellite services operate in such a manner as to not harm RDSS. This footnote would necessitate that mobile satellite services in these bands operate at power levels, and with modulation schemes, consistent with the RDSS operations. AMSC's proposed operations would greatly exceed power levels at which such compatibility could be achieved.

seriously undercut the U.S. effort to attain its stated objectives concerning RDSS at WARC-92.

IV. The Constellation, TRW and Ellipsat Petitions Raise Issues Which the Commission May Want to Consider in a Rulemaking

Constellation, Ellipsat and TRW, in their Petitions for Rulemaking, ask the Commission to revise the RDSS rules to provide for:

- (1) provision of voice and data, as well as radiodetermination satellite service;
- (2) relaxation of the power-flux density limit on the downlink;
- (3) appropriate modulation requirements to accommodate several low-earth orbit systems in the RDSS bands.

LQSS believes that these issues, as well as others, merit consideration by the Commission within the context of a rulemaking proceeding.¹⁸ Such a proceeding need not be lengthy or complex, but rather, focused on certain specific revisions to the RDSS rules which can enhance the capabilities of the service and the potential benefits it can offer the public.

V. The Commission Should Move Forward to Process the Pending RDSS Applications

The Commission, while considering the possible benefits of a rulemaking addressing certain relatively limited revisions to the RDSS rules, can and should proceed to process the pending RDSS applications. In processing the applications, LQSS submits that the Commission can utilize the open-entry approach of the current RDSS rules and proceed to determine legal, financial and technical qualifications of the applicants.

Beyond these assessments, LQSS submits that it is neither necessary nor wise for the Commission to consider the conduct of a comparative hearing for the applications.

¹⁸ As noted above, LQSS will submit a rulemaking request in the near future.

The court of appeals decision in the MSS proceeding¹⁹ does not flatly require the Commission to hold a comparative hearing in the circumstances presented here. RDSS is an open entry service where multiple licensing has been contemplated and authorized.

Given the limited universe of potential licensees, and its open entry policies, it would be feasible for the Commission to grant authorizations, conditioned on development of appropriate measures for technical coordination to implement open entry. The Commission could provide for a specified period for development of these measures and submission of a report. This report would indicate whether technical aspects of certain licensees' systems required modification. At that point, the Commission could allow modifications to be filed within a specified period of time.

Such an approach is consistent with the RDSS rules, the Commission's overall policies on open entry and would enable the new LEO RDSS systems to get up and running to provide service to the public in the shortest possible time.

VII. Conclusion

The Commission has already signalled its views as to the appropriate direction for RDSS through its proposals for WARC-92. LQSS agrees that these proposals are consistent with the public interest. By contrast, AMSC's proposal and petition are totally inconsistent with the direction the Commission has taken thus far with regard to RDSS, the WARC and with the policy of open entry in the provision of telecommunications services. The AMSC petition, for these reasons and those discussed above, should be dismissed.

The Commission may wish to proceed to consider the matters raised in the Constellation, Ellipsat and TRW petitions, and if so, it should move expeditiously with a rulemaking, in any event, it should move forward with the processing of the pending RDSS applications (including those awaiting placement on Public Notice) in order to allow low-earth orbit RDSS and MSS services to be made available to the American people.

¹⁹ See Ftnote. 10, supra.

Respectfully submitted,

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October 16, 1991

CERTIFICATE OF SERVICE

I, Andrew Taylor, hereby certify that I have on this 16th day of October, 1991 caused to be sent copies of the foregoing "Comments of Loral Qualcomm Satellite Services, Inc." by U.S. mail, postage prepaid, to the following:

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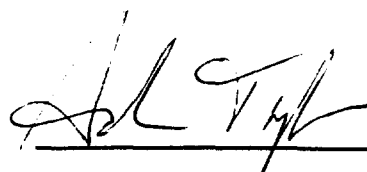
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A handwritten signature in dark ink, appearing to read 'A. Taylor', is written over a horizontal line.

Andrew Taylor